

IN THE CLAIMS

1. (Currently Amended) A recombinant antibody derived from the murine 14 F7 monoclonal antibody produced by the hybridoma with the deposit ECACC 98101901, ~~characterized by~~ comprising the sequences of the hyper variable regions (CDRs) of the heavy and light chains ~~shown below:~~ comprising:

HEAVY CHAIN

CDR1: SYWIH

CDR2: YIDPATAYTESNQKFKD

CDR3: ESPRLRRGIYYYAMDY

LIGHT CHAIN

CDR1: RASQSISSNNLH

CDR2: YASQSISS

CDR3: QQSNRWPLT.

2. (Currently Amended) The antibody ~~according to~~ of claim 1, ~~characterized by being~~ comprising a chimeric variant of the 14F7 antibody containing the CDRs and the framework regions (FRs) of the heavy and light chains of said 14F7 antibody and the constant region of the IgG1 human heavy chain and the constant region of the Ck human light chain with the following sequences of the framework regions (FRs) of the heavy and light chains:

HEAVY CHAIN

FR1: QVQLQQSGNELAKPGASMKMSCRASGYSFT

FR2: WLKQRPDQGLEWIG

FR3: KAILTADRSSNTAFMYLNSLTSEDSAVYYCAR

FR4: WGQGTTVTVSS

LIGHT CHAIN

FR1: DLVLTQSPATLSVTPGDSVSFSC

FR2: WYQQRTHESPRLLIK

FR3: GIPSRFSGSGSGTDFTLISIIVETEDFGMYFC

FR4: FGAGTKLELKRA₂

3. (Currently Amended) ~~An~~ The antibody according to claims 1 and 2 of claim 1,
said recombinant antibody comprising ~~characterized by being~~ a humanized
variant of the 14F7 monoclonal antibody containing point mutations in the
framework regions (FRs) of the heavy and light chains to reduce its
immunogenicity.

4. (Currently Amended) ~~An~~ The antibody according to ~~of~~ claim 3, said
recombinant antibody comprising ~~characterized by being~~ a humanized variant of
the 14F7 monoclonal antibody whose framework regions of the heavy and light
chains contain ~~any of~~ at least one mutation selected from the following mutations:

HEAVY CHAIN:

Position 5: Q for V

Position 9: N for A

Position 11: L for V

Position 12: A for V

Position 18: M for V

Position 19: K for R

Position 20: M for V

Position 40: R for A

Position 42: D for G

LIGHT CHAIN:

Position 39: R for K

Position 40: T for P

Position 41: H for G

Position 42: E for Q₂

5. (Currently Amended) ~~The single~~ Single chain Fv fragment derived from the murine 14F7 monoclonal antibody produced by the hybridoma with the deposit number ECACC 98101901, ~~characterized by containing~~ comprising the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a variable region of the light chain of a murine antibody.

6. (Currently Amended) ~~The single~~ Single chain Fv fragment ~~according to of~~ claim 5, ~~characterized because~~ wherein the variable region of the light chain is the 14 F7 antibody itself.

7. (Currently Amended) ~~The single~~ Single chain Fv fragment ~~according to of~~ claim 6, ~~characterized because~~ wherein the sequences of the hyper variable regions (CDRs) of the heavy and light chains ~~are the ones shown below:~~ comprise

HEAVY CHAIN

CDR1: SYWIH

CDR2: YIDPATAYTESNQKFKD

CDR3: ESPRLRRGIYYYAMDY, and

LIGHT CHAIN

CDR1: RASQSISSNNLH

CDR2: YASQSISS

CDR3: QQSNRWPLT,

8. (Currently Amended) ~~The single~~ Single chain Fv fragment ~~according to of~~ claim 7, ~~characterized by containing~~ wherein the CDRs and the framework regions (FRs) of the heavy and light chains of said 14F7 antibody whose sequences of the framework regions (FRs) of the heavy and light chains ~~are the following:~~ comprise.

HEAVY CHAIN

FR1: QVQLQQSGNELAKPGASMKMSCRASGYSFT

FR2: WLKQRPDQGLEWIG

FR3: KAILTADRSSNTAFMYLNSLTSEDSAVYYCAR

FR4: WGQGTTVTVSS

LIGHT CHAIN

FR1: DLVLTQSPATLSVTPGDSVSFSC

FR2: WYQQRTHESPRLLIK

FR3: GIPSRFSGSGSGTDFTLSIISVETEDFGMYFC

FR4: FGAGTKLELKRA₂

9. (Currently Amended) The single Single chain Fv fragment according to of claim 8, ~~which contains~~ further comprising the point mutations of the framework regions (FRs) of the heavy and light chains to reduce its immunogenicity.

10. (Currently Amended) The single Single chain Fv fragment according to of claim 9, ~~whose wherein the~~ framework regions of the heavy and light chains comprise at least mutation selected from ~~contain any of~~ the following mutations:

HEAVY CHAIN:

Position 5: Q for V

Position 9: N for A

Position 11: L for V

Position 12: A for R

Position 18: M for V

Position 19: K for R

Position 20: M for V

Position 40: R for A

Position 42: D for G

LIGHT CHAIN:

Position 39:R for K

Position 40:T for P

Position 41:H for G

Position 42:E for Q

11. (Currently Amended) The single ~~Single~~ chain Fv fragment derived from the murine 14F7 monoclonal antibody produced by the hybridoma with deposit number ECACC 98101901 ~~according to~~ of claim 5, characterized by ~~containing~~ further comprising the sequence of the variable region of the heavy chain of the 14F7 monoclonal antibody and a light chain variable region whose sequence is as follows:

Fr1

D I V M F Q S P A S L A V S L G Q R A T I S C

C D R 1

R A S Q S V S S S S Y S Y M H

Fr 2

W Y Q Q K P G Q P P K L L I K

C D R 2

Y A S N L E S

Fr 3

G V P A R F S G S G S G T D F T L N I H P V E E E D A A T Y Y C

C D R 3

Q H S R D V P L T F

Fr 4

G A G T K L E I K₂

12. (Currently Amended) The single Single chain Fv fragment derived from the murine 14F7 monoclonal antibody produced by the hybridoma with deposit number ECACC 98101901 according to of claim 5, ~~characterized by containing~~ further comprising the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a light chain variable region whose sequence is the following:

Fr1

D I Q M T Q T P S S L S A S L G D R V T I S C

C D R 1

R A S Q D I S N Y L N

Fr 2

W Y Q Q K P D G T V K L L I V

C D R 2

Y T S R L H S

Fr 3

G V P S R F S G S G S G T D Y S L T I S N L E Q E D I A T Y F C

C D R 3

Q Q G N T L P P T F

Fr 4

G A G T K L E L K₂

13. (Currently Amended) A single ~~Single~~ chain Fv fragment derived from the murine 14F7 monoclonal antibody produced by the hybridoma with deposit number ECACC 98101901 ~~characterized by containing~~ comprising the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a light chain variable region of a human antibody

14. (Currently Amended) The single ~~Single~~ chain Fv fragment ~~according to~~ of claim 13, ~~characterized by containing~~ wherein the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a light chain variable region whose sequence is the following:

Fr1

D I Q M T Q T P S S L S A S V G D R V T I T C

CDR 1

R A S Q S I S S F L N

Fr 2

W Y Q Q K P G K A P K L L I Y

CDR 2

A A S N L Q S

Fr 3

G V P S R F S G R G S G T D F T L T I S S L Q P E D F A A Y Y C

CDR 3

Q Q G Y T T P L T F

Fr 4

G Q G T K L E L K.

15. (Currently Amended) The single Single chain Fv fragment ~~according to~~ of claim 13, ~~characterized by containing~~ wherein the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a light chain variable region whose sequence is the following:

Fr1

Q S V V T Q P P S A S G G P G Q S L T I S C

C D R 1

T G T S S D V G G Y N H V S

Fr 2

W Y Q Q H P G K A P K L M I Y

C D R 2

D V S K R P S

Fr 3

G V P H R F S G S K S G N T A S L T V S G L Q A E D E A V Y Y C

C D R 3

S S Y A G S N N L V F

Fr 4

G G G T K V T V L.

16. (Currently Amended) The single ~~Single~~ chain Fv fragment ~~according to~~ of claim 13, characterized by containing the sequence of the variable region of the heavy chain of the murine 14F7 monoclonal antibody and a light chain variable region whose sequence is the following:

Fr1

S S E L T Q D P A V S V A L G Q T V R I T C

C D R 1

Q G D S L R S Y Y A S

Fr 2

W Y Q Q K P G Q A P V L V I Y

C D R 2

G K N N R P S

Fr 3

G I P D R F S G S S S G N T A S L T I T G A Q A E D E A D Y Y C

C D R 3

N S R D S S G N H V V F

Fr 4

G G G T K L T V L

17. (Currently Amended) A cell ~~Cell~~ line characterized by ~~expressing comprising~~ the expression of the recombinant antibody of ~~any of the claims 1 to 4~~ claim 1.

18. (Currently Amended) A cell ~~Cell line characterized by comprising the~~
expression of the single chain Fv fragment of ~~any of the claims from 5 to 16~~ claim
5.

19. (Currently Amended) A pharmaceutical ~~Pharmaceutical~~ composition for the
treatment of malignant tumors characterized by comprising the recombinant
antibody of ~~any of the claims from 1 to 4~~ claim 1.

20. (Currently Amended) A pharmaceutical ~~Pharmaceutical~~ composition for the
treatment of malignant tumors ~~characterized by comprising~~ the single chain Fv
fragment of ~~any of the claims from~~ claim 5 to 16, and further comprising an
appropriate excipient.

21. (Currently Amended) A use ~~Use~~ of the pharmaceutical composition of claim
19, ~~for the~~ comprising treatment of malignant breast tumors and melanomas and
their metastases and recurrences.

22. (Currently Amended) A use ~~Use~~ of the pharmaceutical composition of claim
20, ~~for~~ comprising the treatment of malignant breast tumors and melanomas and
their metastases and recurrences.

23. (Currently Amended) A reagent ~~Reagent~~ for the “~~in-vivo~~” in vivo localization
and identification of malignant tumors ~~characterized by comprising~~ the
recombinant antibody of ~~any of the claims from 1 to 4~~ claim 1, and further
comprising an appropriate marker.

24. (Currently Amended) A reagent ~~Reagent~~ ~~according to~~ of claim 23,
~~characterized for being used~~ comprising use for the “~~in-vivo~~” in vivo localization

and identification of malignant breast tumors and melanomas their metastases and recurrences.

25. (Currently Amended) A reagent ~~Reagent~~ for the "~~in-vivo~~" in vivo localization and identification of malignant tumors ~~characterized by~~ comprising the single chain Fv fragment of ~~any of the claims from 5 to claim 16,~~ and further comprising an appropriate marker.

26. (Currently Amended) A reagent ~~Reagent~~ ~~according to~~ of claim 25, ~~characterized for being used~~ comprising use for the "~~in-vivo~~" in vivo localization and identification of malignant breast tumors and melanomas their metastases and recurrences.